

Fig. 1

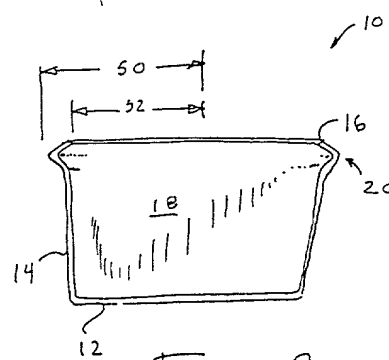


Fig. 2

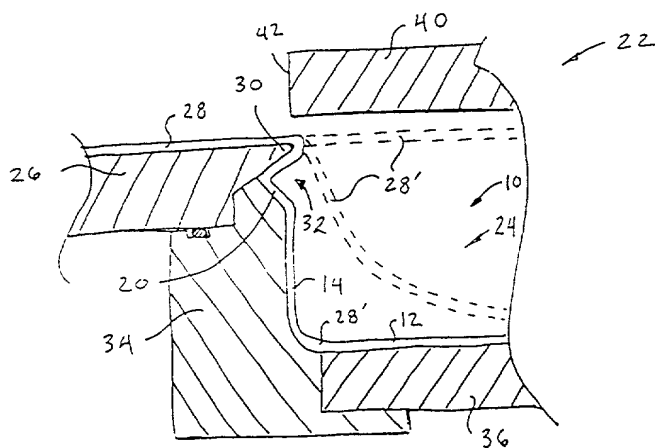


Fig. 3

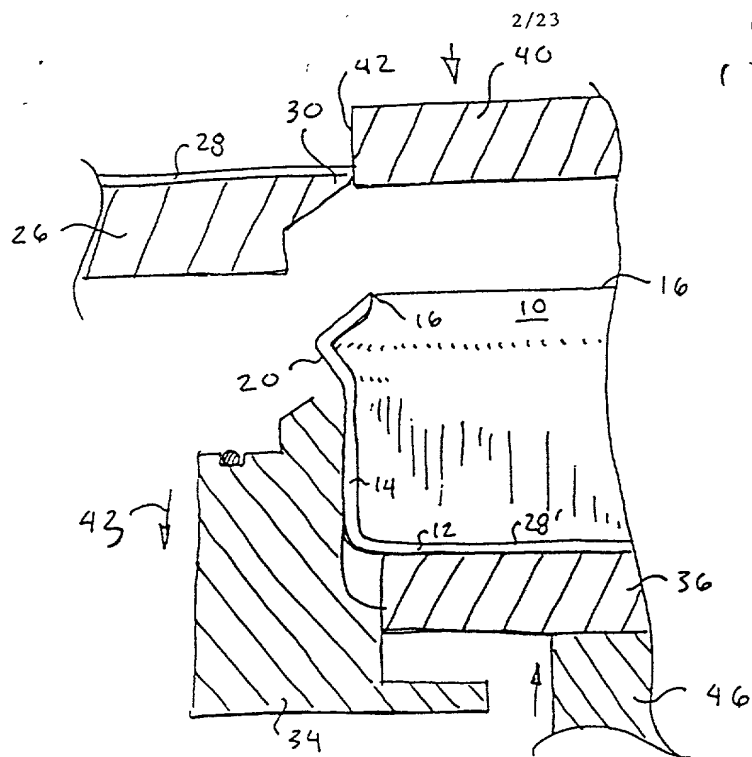
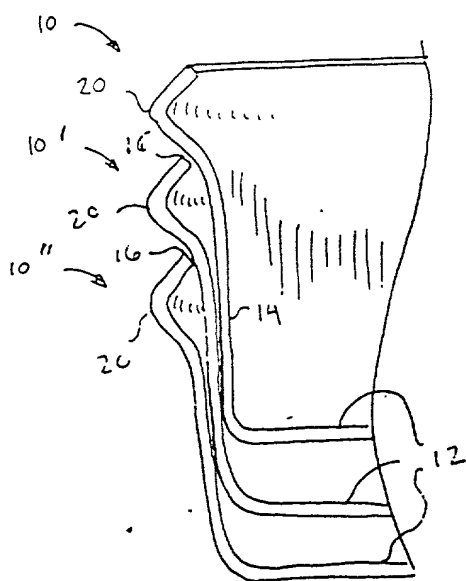


Fig. 41



F1a 5

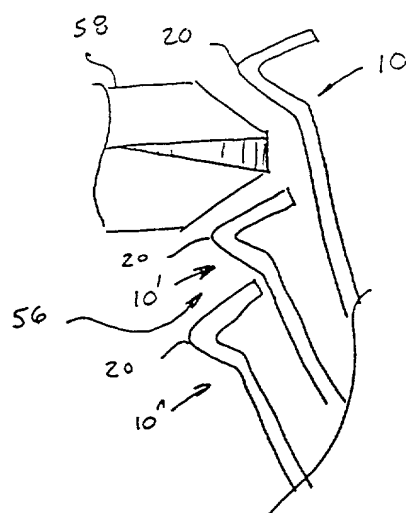


Fig. 6

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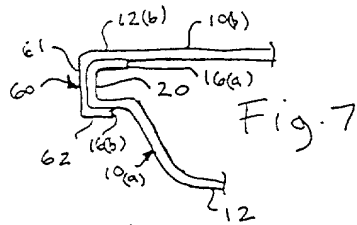


Fig. 7

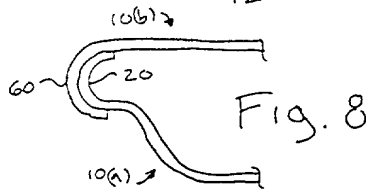


Fig. 8

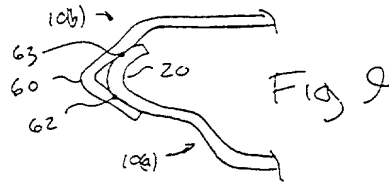


Fig. 9

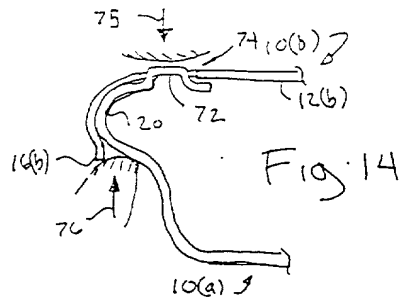


Fig. 14

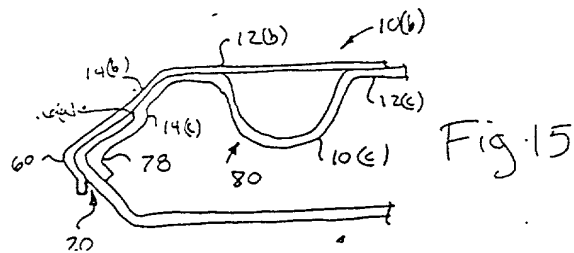


Fig. 15

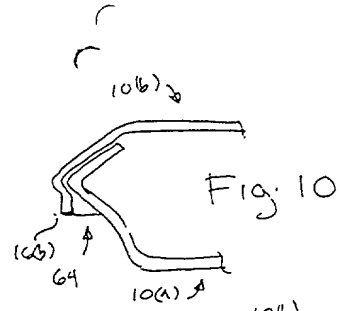


Fig. 10

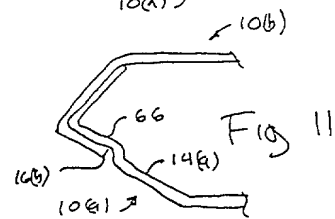


Fig. 11

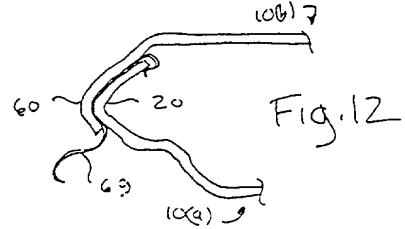


Fig. 12

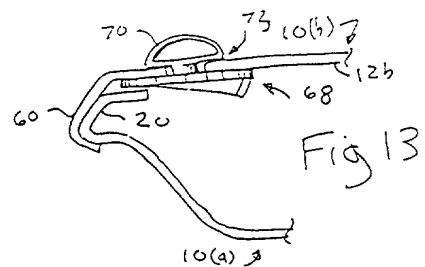


Fig. 13

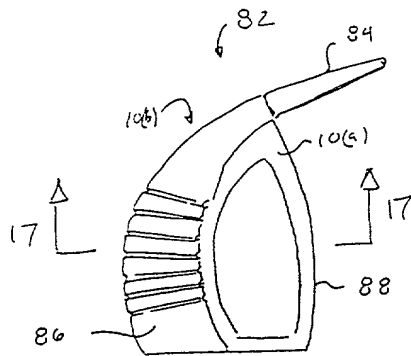


Fig 16

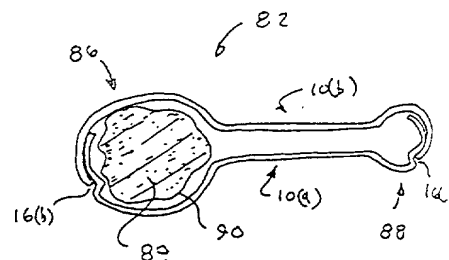


Fig 17

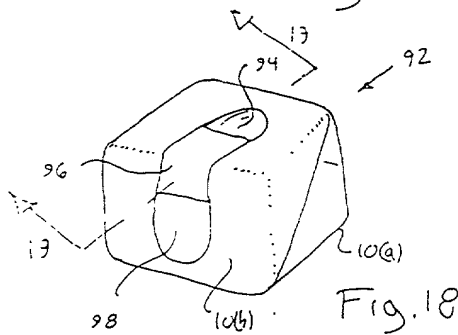


Fig 18

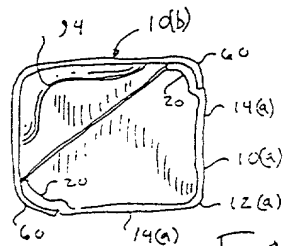


Fig 19

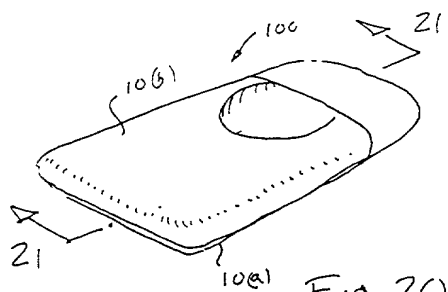


Fig 20

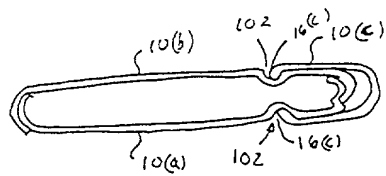


Fig 21

10051566 041203

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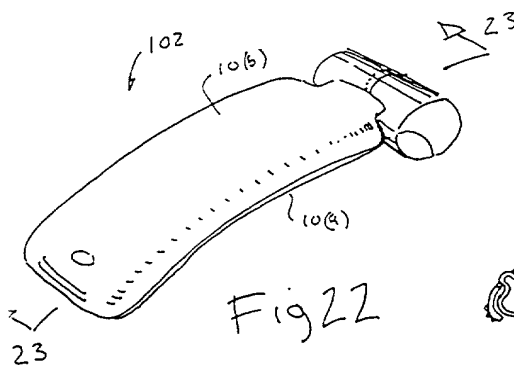


Fig. 22

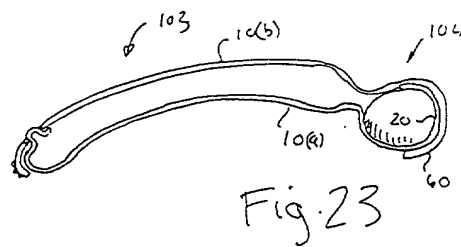


Fig. 23

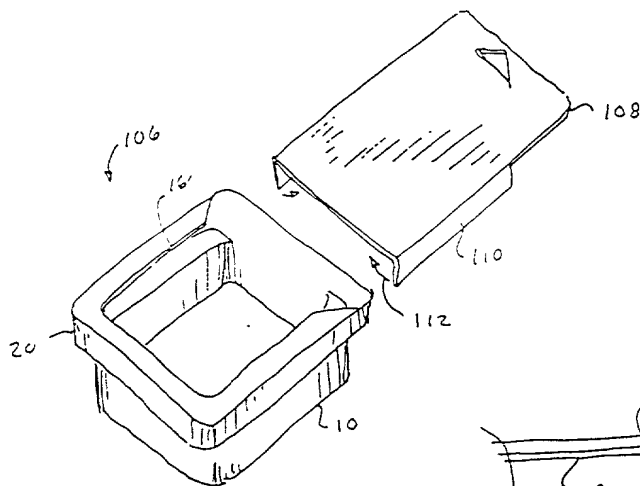


Fig. 24

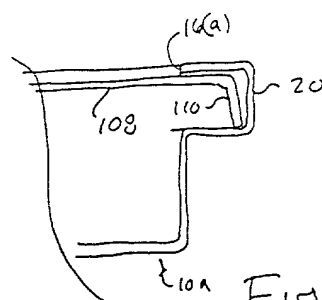
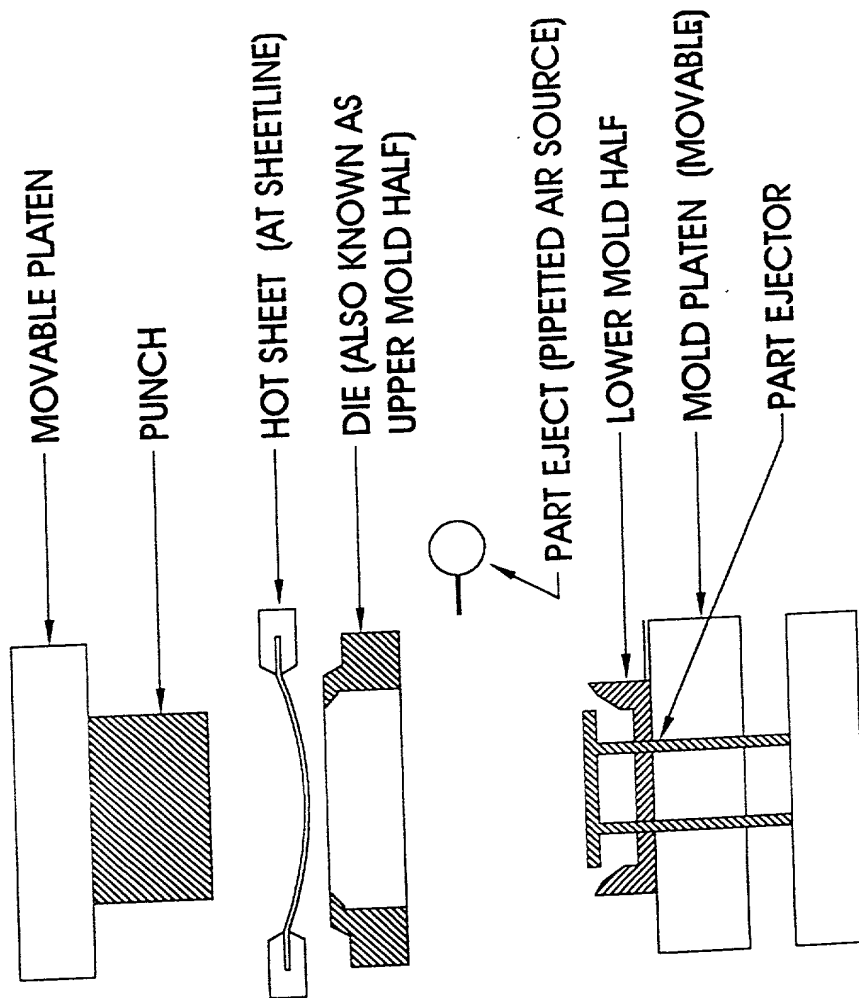


Fig. 25

Form 4/17/00

6/23

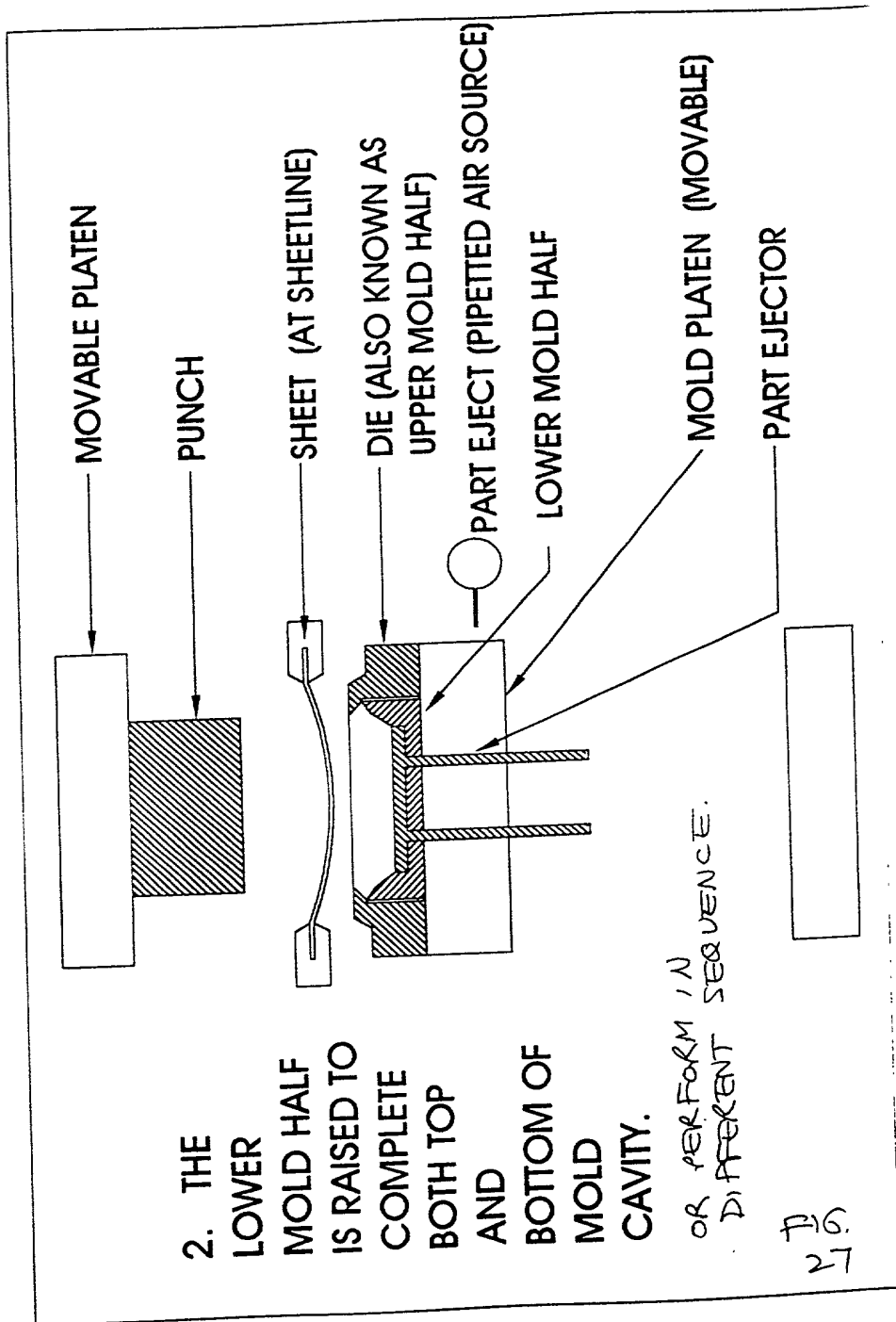
1. A HEATED PLASTIC SHEET IS INDEXED INTO A POSITION OVER THE UPPER MOLD HALF.



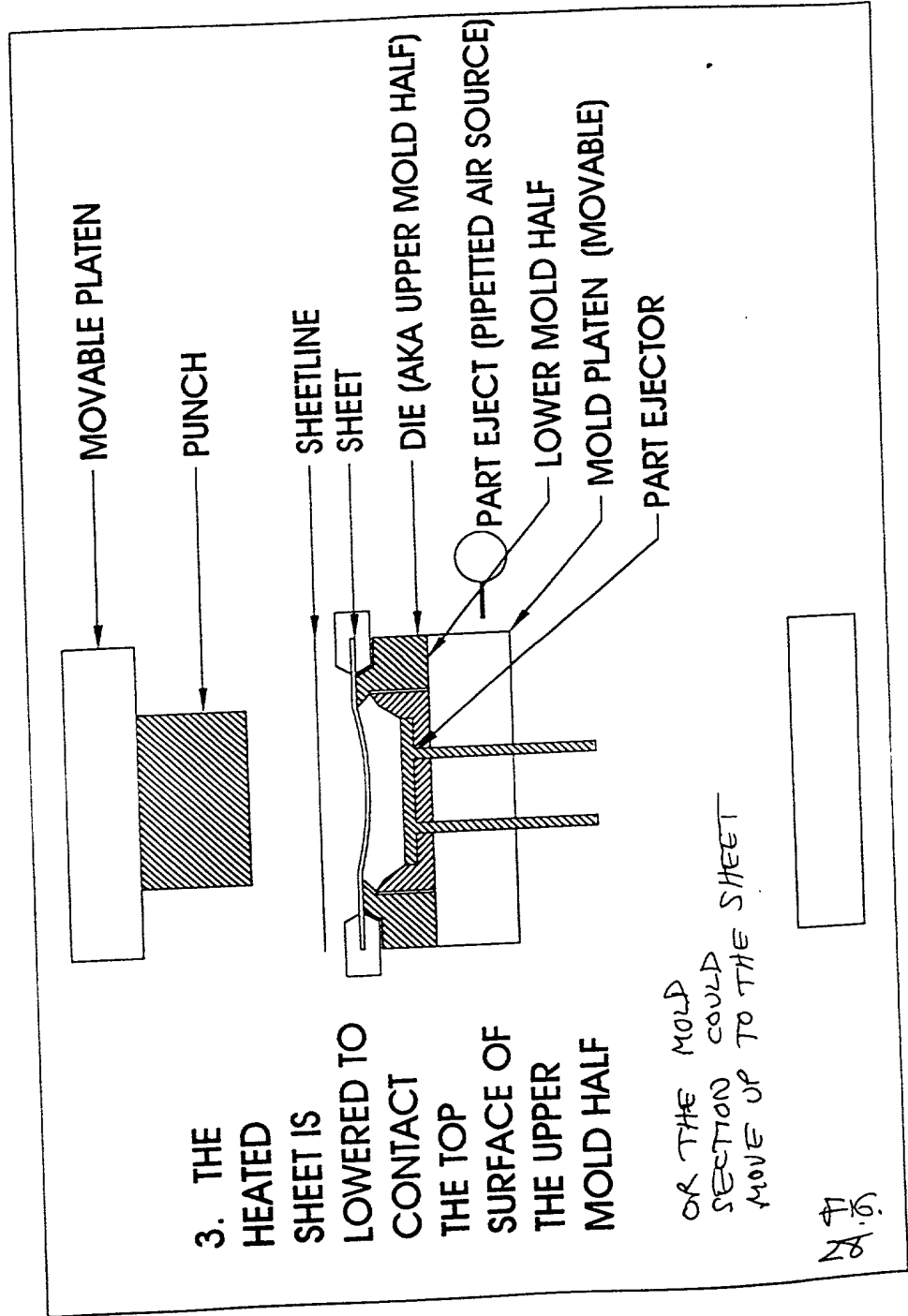
116  
26

Barry 4/17/00

7/23



John S. Zam 4/17/00



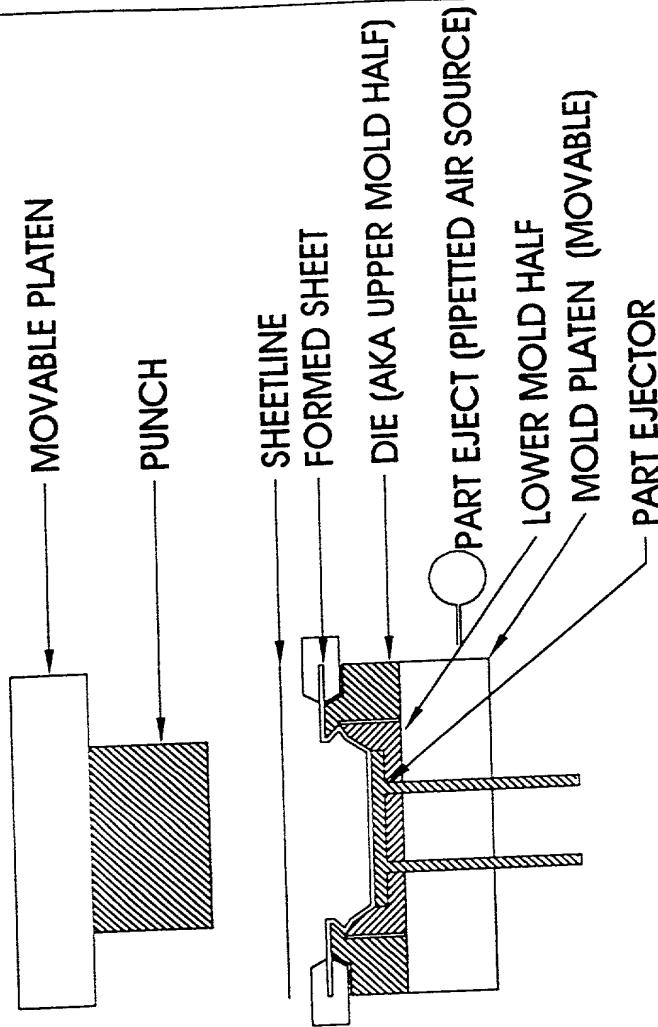
41  
28.6



Rem 4/17/00

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4. THE SHEET IS DRAWN INTO THE MOLD BY EITHER (OR BOTH) PRESSURE AND/OR VACUUM. THE SHAPE OF THE MOLD CAVITY IS DUPLICATED IN THE THERMOFORMED PLASTIC SHEET.

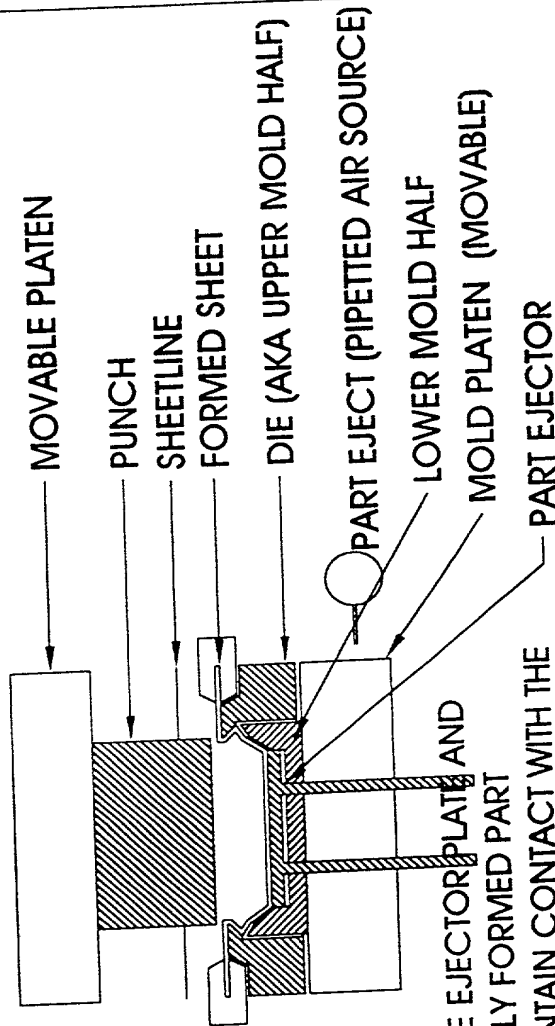


16.29

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*Ben* 4/17/00

5. THE PUNCH MOVES TOWARD THE SHEET AND AT THE SAME TIME THE LOWER MOLD HALF MOVES DOWN, SO THAT THE PART WILL NOT BE CRUSHED DURING THE PUNCHING OF THE PART



THE EJECTOR PLATE AND NEWLY FORMED PART MAINTAIN CONTACT WITH THE AID OF VACUUM. THE PLATE MOVES FREELY UP, AND HOLDS THE PART.

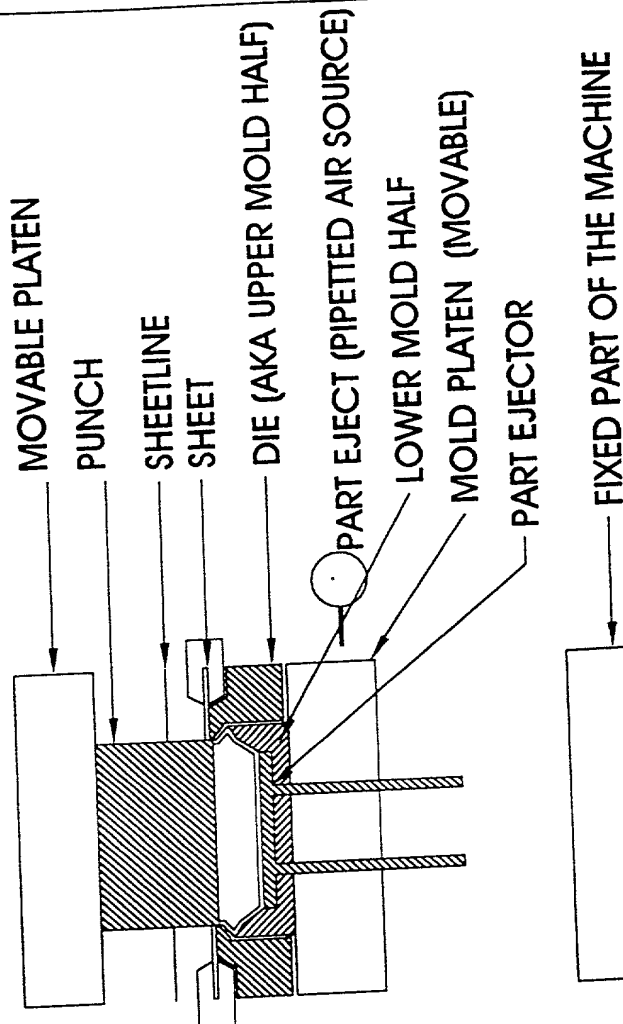
LOWER MOLD HALF COULD MOVE UP/DOWN BY AN AIR CYLINDER TO CREATE SPACING.

WJ  
06

*Sam S. Bruno* 4/17/00

6. THE PUNCH CONTINUES TO MOVE DOWN AND PUNCHES THE FORMED PART OUT OF THE WEB. THE EJECTOR VACUUM IS STILL ON AND CONTINUES TO HOLD THE PART ON THE EJECTOR PLATE AND IN THE LOWER MOLD.

OR MOVE MOLD AND DIE UP TO THE PUNCH.



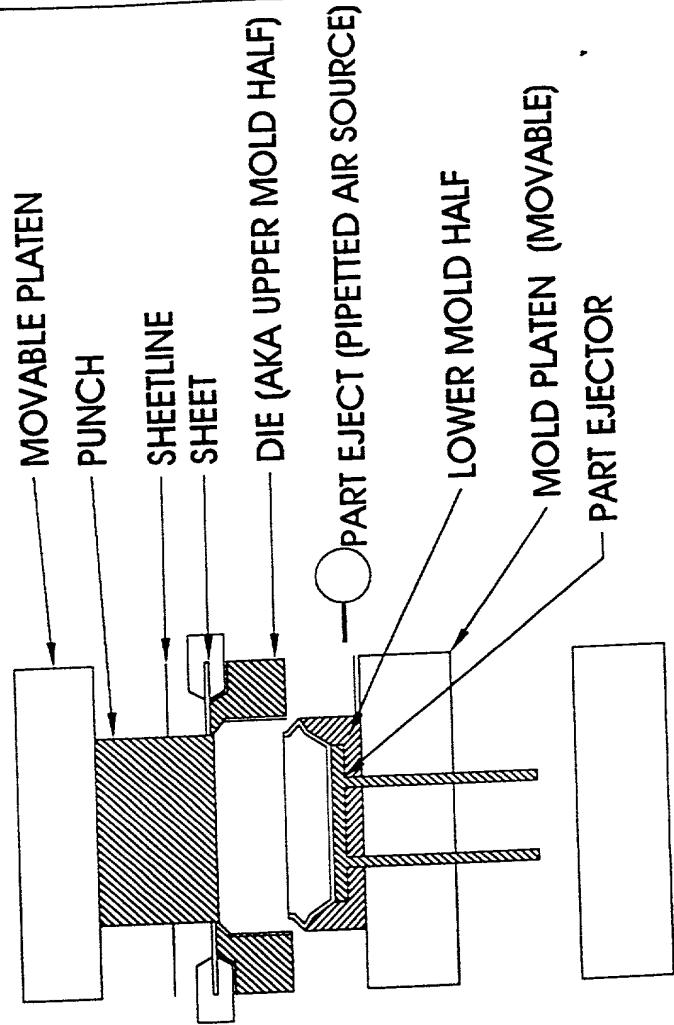
12/23



*Donna Smith 04/17/00*

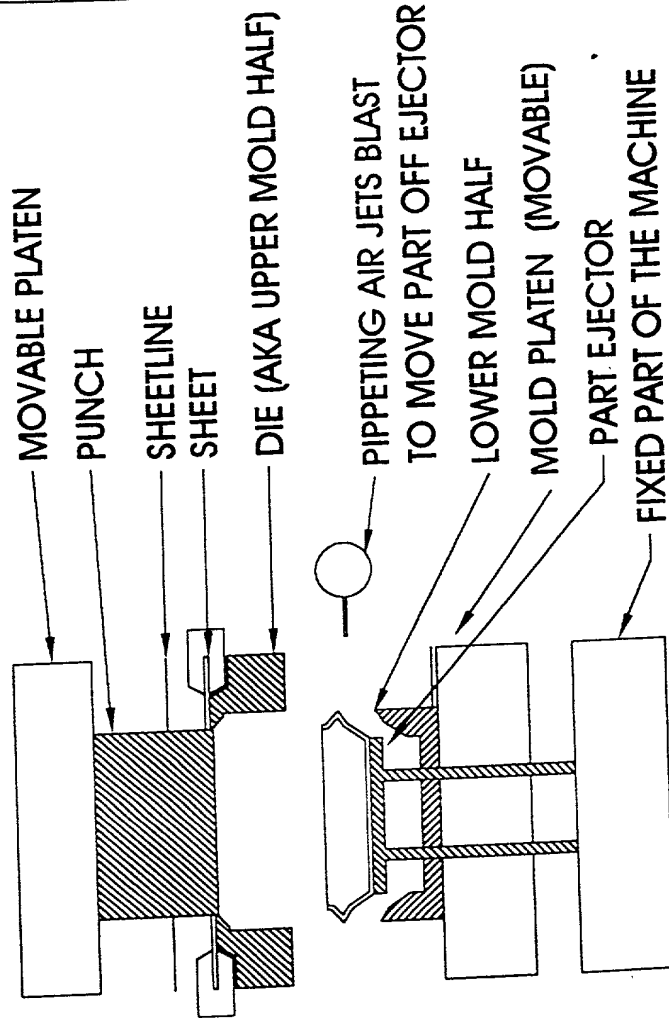
7. THE LOWER MOLD HALF MOVES DOWN TO CARRY THE PART BELOW THE UPPER MOLD HALF, SO THAT THE PART MAY BE REMOVED.

11/6. 32



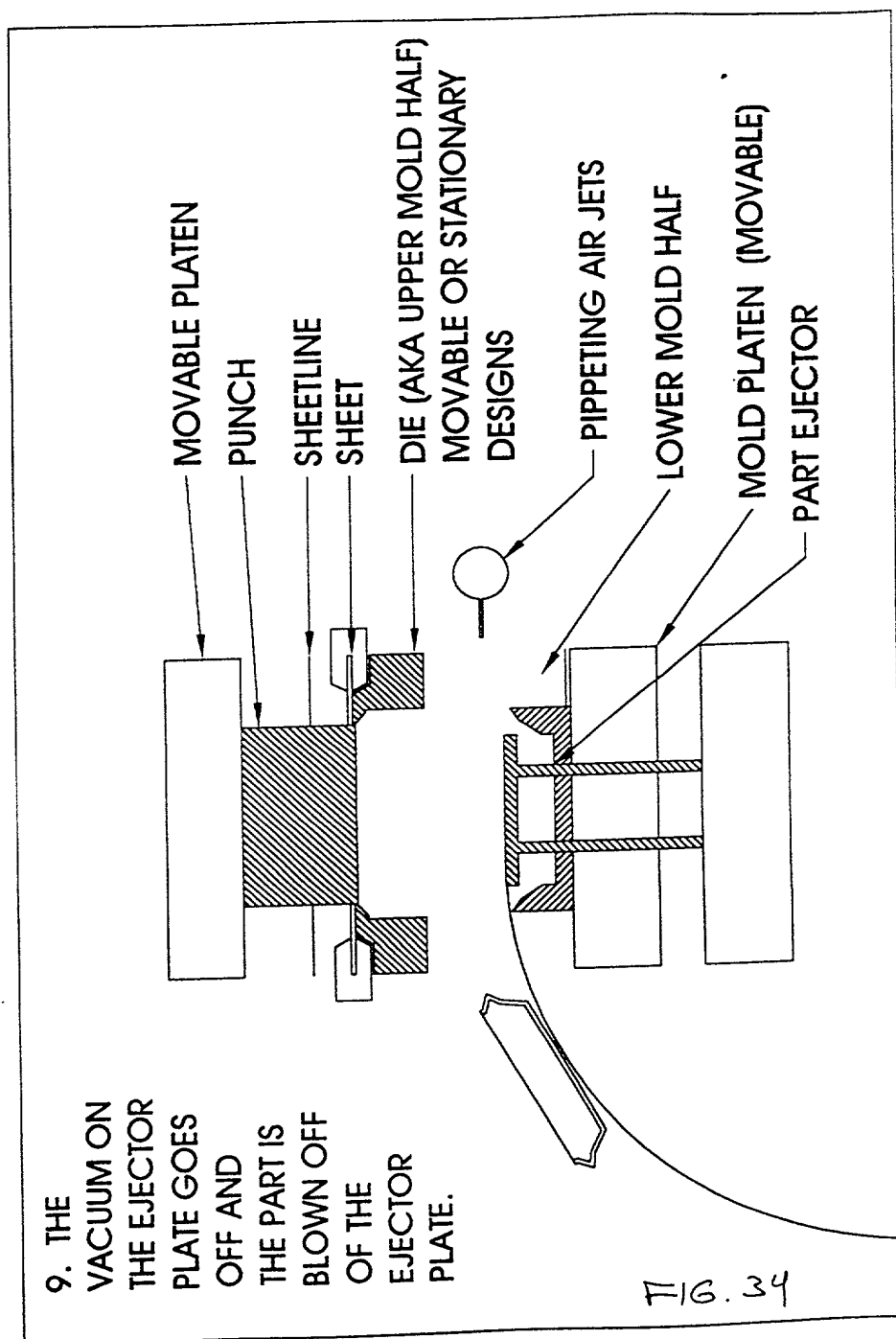
*Ben 04/17/00*

8. THE LOWER MOLD PLATEN CONTINUES TO LOWER. THE FREELY MOVING EJECTOR PLATE IS STOPPED BY ITS GUIDE-RODS STRIKING A FIXED SURFACE OF THE MACHINE.

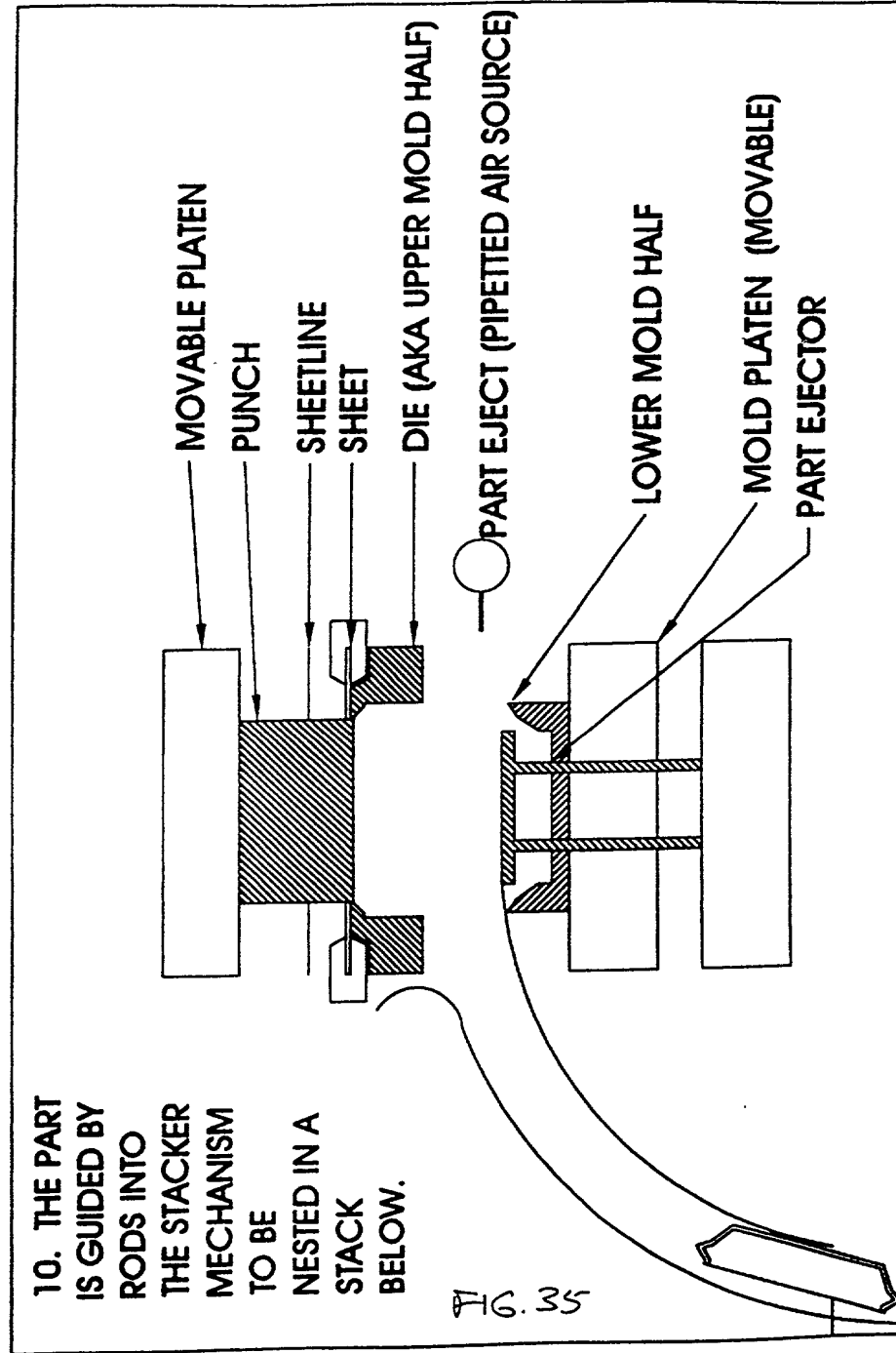


17 6. 22

Sam D. Ben 04/17/00



*Rev D.3 Rev 04/17/00*



*Sam S. Bunn 04/17/00*

11. THE PUNCH MOVES UP TO ITS WAITING POSITION. THE HEATED SHEET IS ADVANCED TO THE MOLD POSITION.

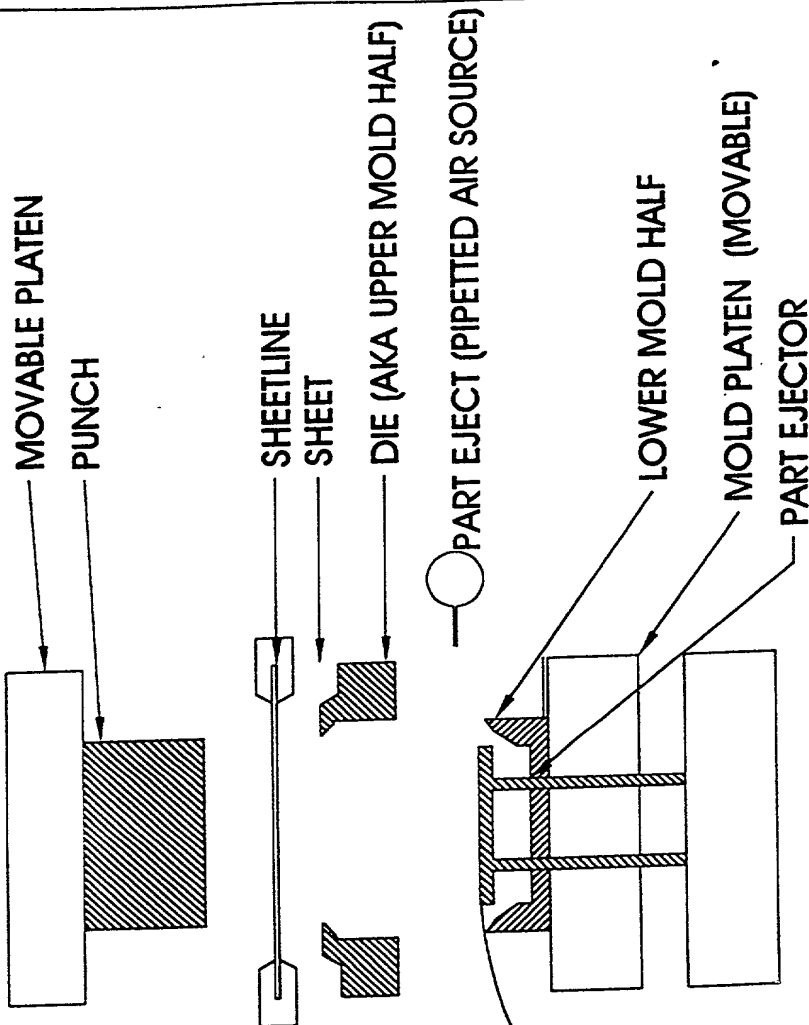
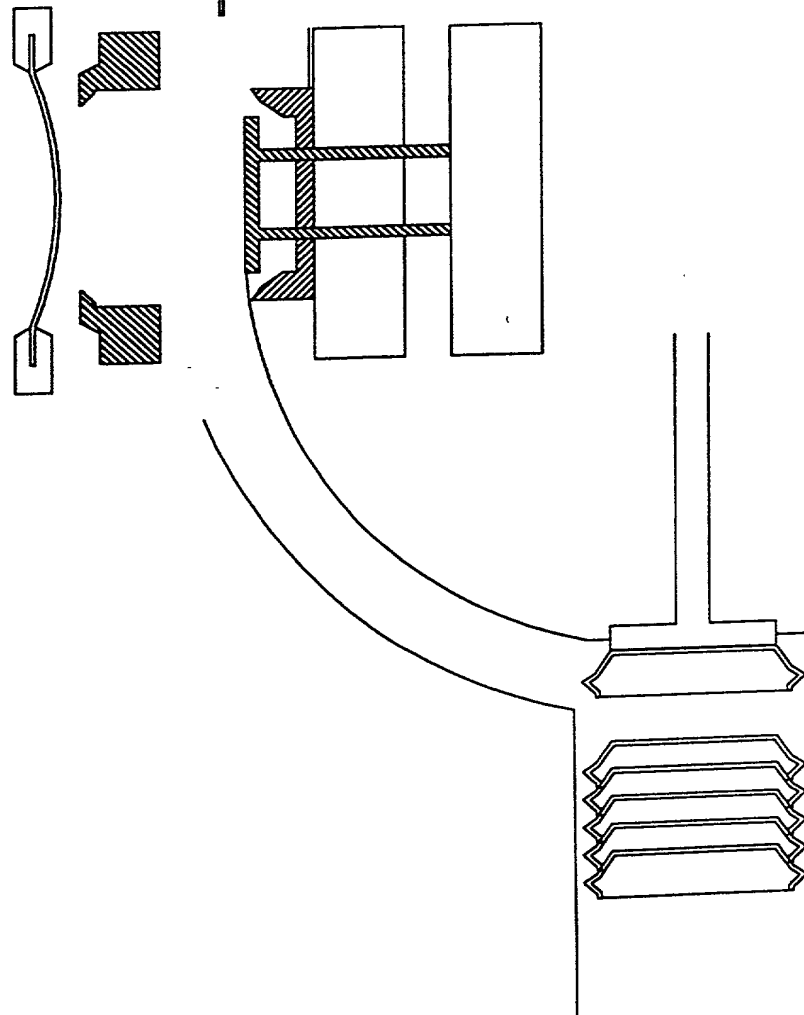


FIG. 36



12. THE PART  
IS INDEXED  
FOR AN  
IN-LINE  
OPERATION,  
SUCH AS  
PUNCHING  
HOLES, OR  
PRINTING;  
OR PUSHED  
INTO A  
STACK FOR  
FINAL  
PACKAGING.

FIG. 37



*Ben 04/17/00*

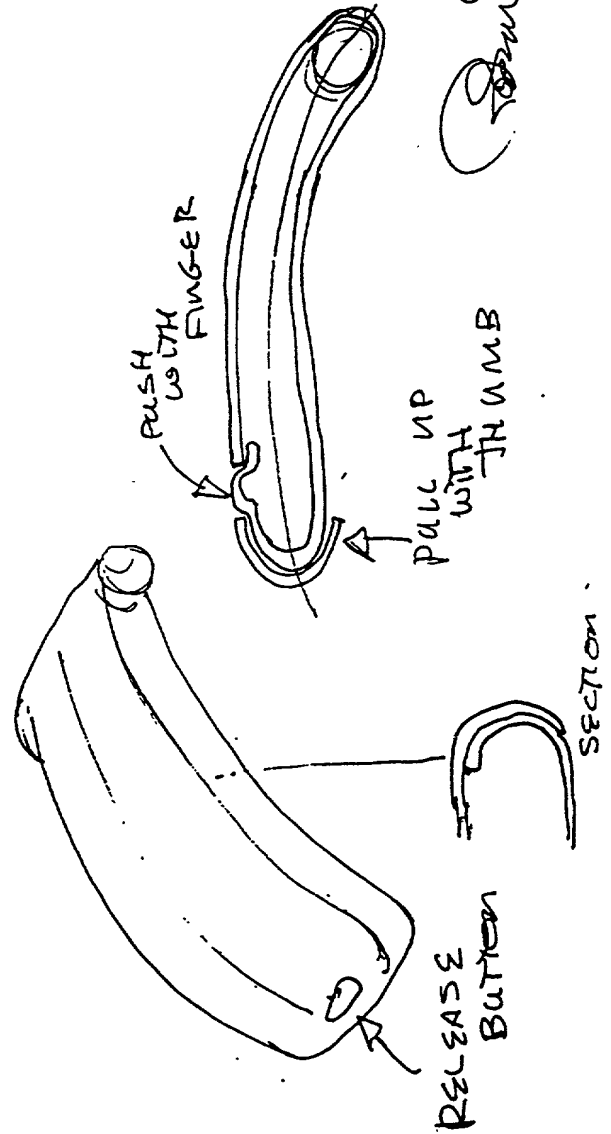
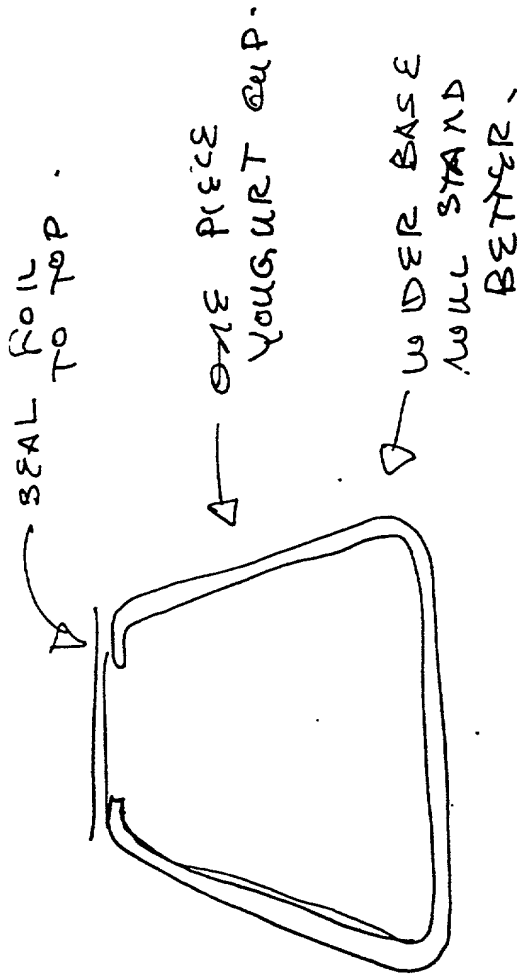
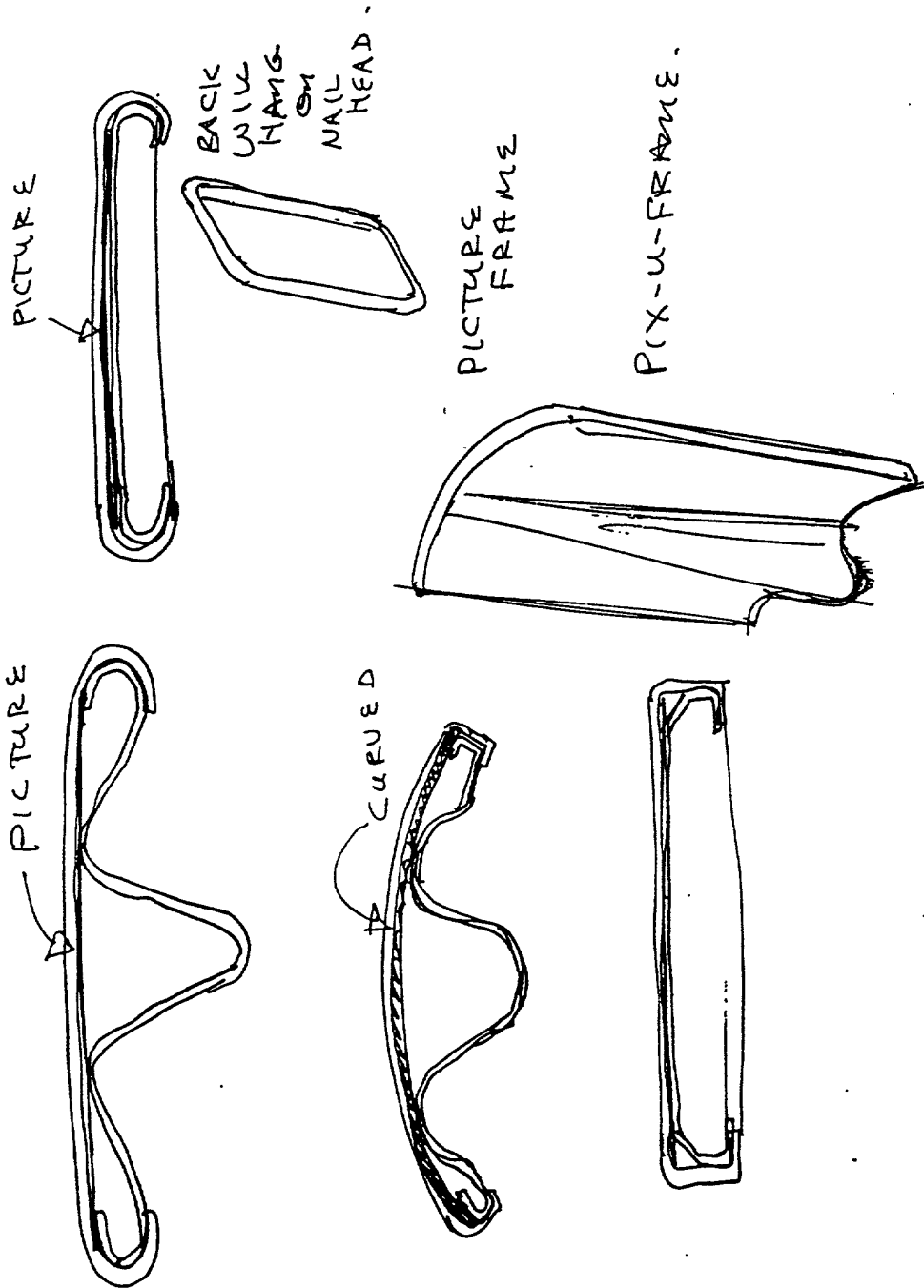


FIG. 38

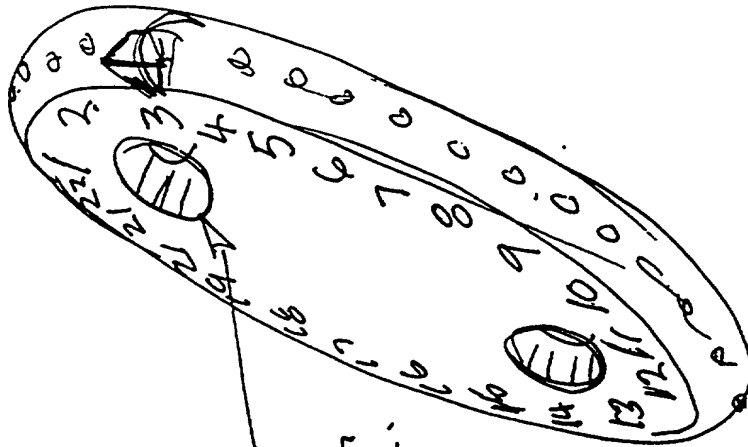
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04/17/00  
P. D. D. D.

FIG. 39



POCKETS  
TO MAKE  
ROTATING  
EASIER.

→ ROTATING VALVES  
FOR COUNTER.

→ DETENTED FOR SNAP

- COUNTER FOR PLAYING GAMES  
SCORING.

- COUNTER FOR GOLF, CARDS, ETC.

- COUNTER FOR WEIGHT WATCHERS  
"POINTS" COUNTER.

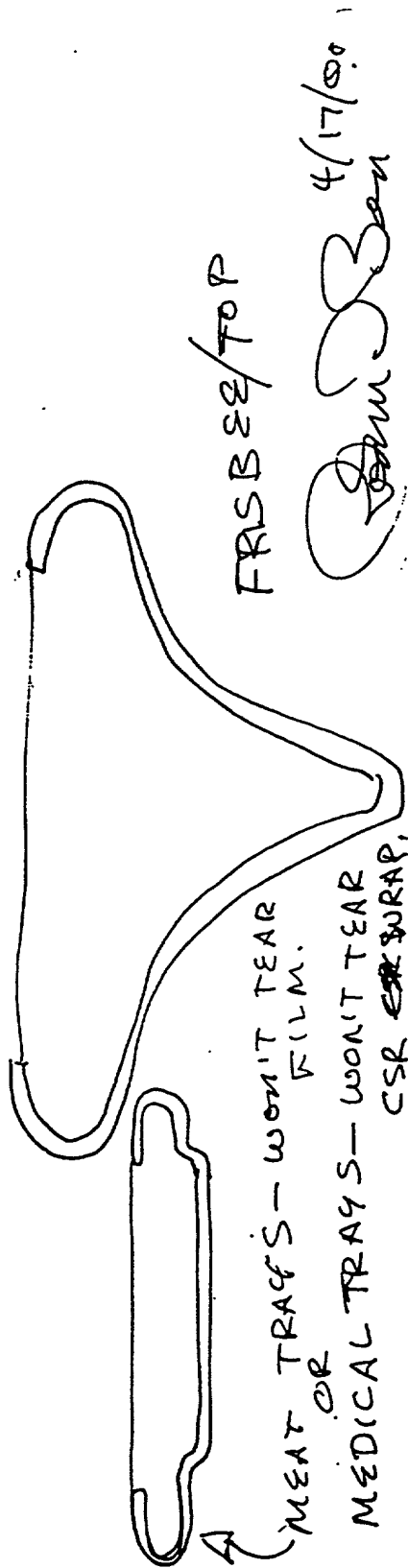
—

20/23

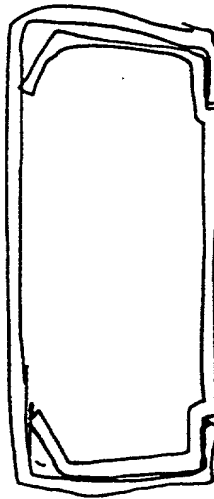
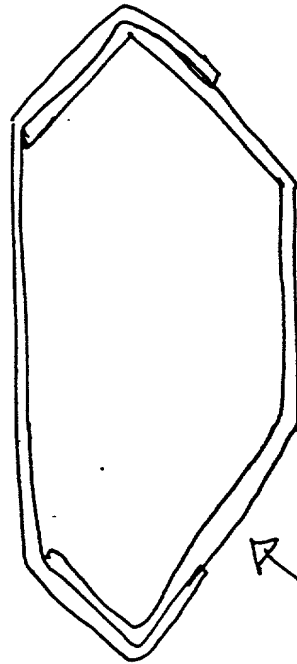


R. D. Baum 04/17/00

FIG. 40



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← SNAP-TOGETHER HOUSINGS FOR ELECTRONICS.

FIG. 41

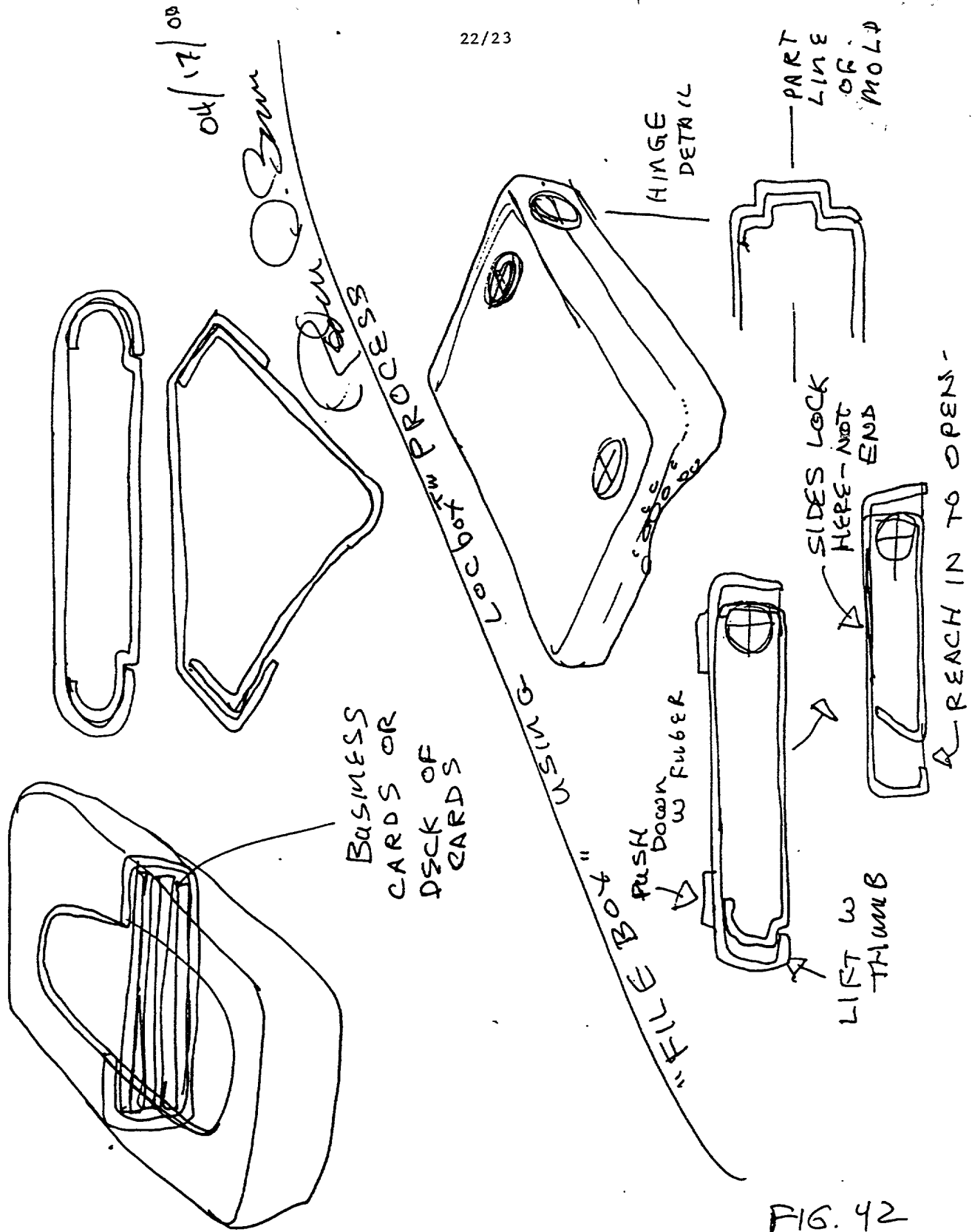


FIG. 42

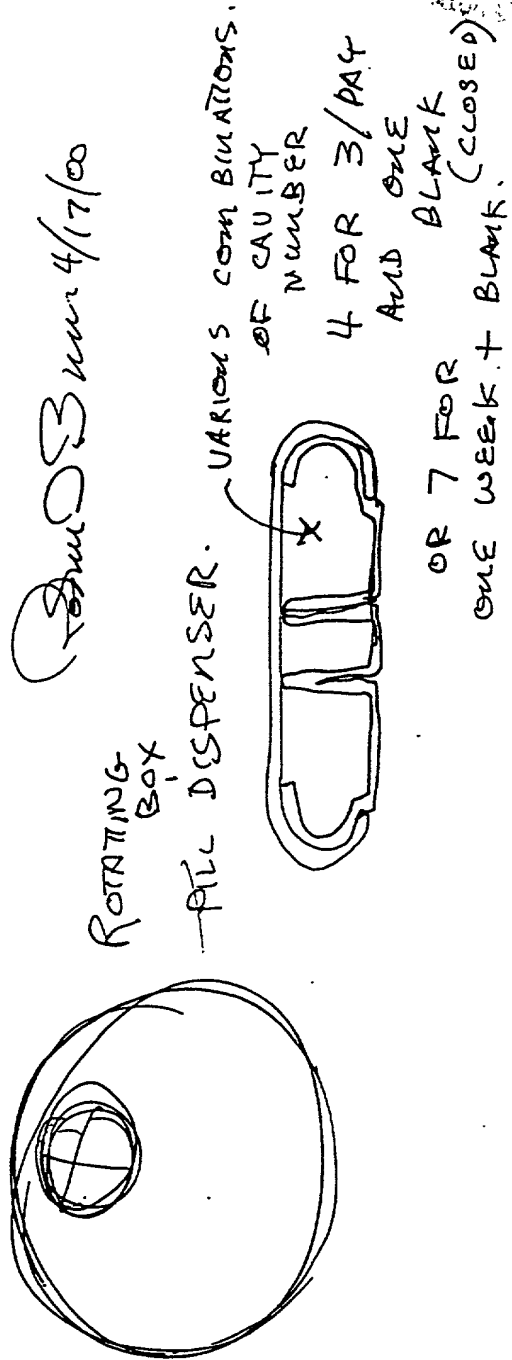
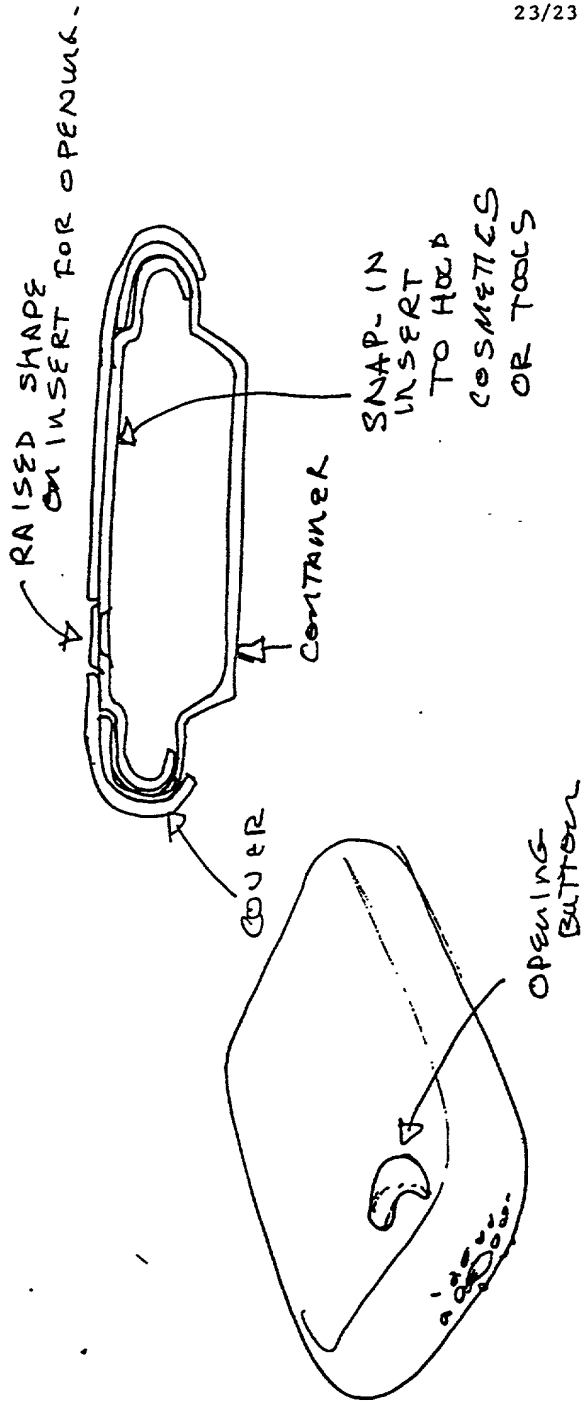


FIG. 43